

UNITED STATES PATENT AND TRADEMARK OFFICE
CERTIFICATE OF CORRECTION

PATENT NO. : 7,017,489 B2
APPLICATION NO. : 10/784122
DATED : March 28, 2006
INVENTOR(S) : Joseph A. Perault et al.

Page 1 of 3

It is certified that error appears in the above-identified patent and that said Letters Patent is hereby corrected as shown below:

In the specification:

Page 1, Column 1, line 43, after "standard cartridge.", please insert the following paragraphs:

--In some prior art stencil printers, any excess solder paste remaining under the squeegee after it has fully traversed the stencil, remains on the stencil when the squeegee is returned to its initial position for printing on a second circuit board. Usually, as the squeegee passes the solder paste over the apertures, minute amounts of solder paste seep through the apertures to accumulate at the bottom side of the stencil. This presents various problems such as the solder paste being inadvertently disposed on the unintended areas of the circuit boards. Also, as the solder paste hardens, it complicates the alignment procedure of a circuit board with the stencil. Also, such hardened solder paste may jeopardize the quality of subsequent printing operations. Therefore, it is highly desirable to remove the excess solder paste that forms on the bottom of the stencil.

U.S. Patent No. 5,918,544 to Doyle represents one prior art stencil printer having a well-known method and apparatus for cleaning the bottom of the stencil. Doyle discloses a wiping system that is positioned near the vicinity of the stencil and moves beneath the stencil from one end of the stencil to the other end. As the stencil wiper system moves beneath the stencil, it wipes off excess solder paste at the bottom of the stencil.

FIGS. 1 and 2 disclose such a prior art stencil wiper system, generally indicated at 10. As shown, a paper supply of a prior art stencil wiper system 10 includes a roll of

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In the specification: (continued)

Page 1, Column 1, line 43, after "standard cartridge.", please insert the following paragraphs:

paper 12 housed on a supply roller 14, several paper guide rollers 16, a take-up roller 18 for receiving used paper, and a paper or web material driver 20 for moving the paper across the stencil in a linear direction from the supply roller 14 to the take-up roller 18. The stencil wiper system 10 further includes a hollow solvent tube 22 with numerous small openings formed along the length of the tube 22, and a wiper blade 24 having a vacuum plenum 26 for removing excess moisture and hardened solder paste from the paper as it travels underneath the stencil. The wiper blade 24 moves the web between a position in which the paper is spaced away from the stencil and a position in which the paper engages the stencil. During a cleaning operation, a paper winder motor of the web material driver 20 rotates the take-up roller 18 (and paper supply roller 14), which passes paper through the paper guide rollers 16. Between the paper guide rollers 16 there is the hollow solvent tube 22 that is filled with solvent by a solvent pump, which causes the solvent tube 22 to squirt solvent through its numerous holes onto the paper as it passes the solvent tube 22.

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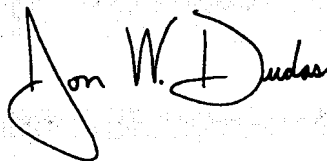
In the specification: (continued)

Page 1, Column 1, line 43, after "standard cartridge.", please insert the following paragraphs:

The solvent impregnated paper is passed over the wiper blade 24, which holds the paper in place as the stencil moves over the paper, thereby cleaning the stencil.--

Signed and Sealed this

Fifteenth Day of May, 2007

A handwritten signature in black ink, reading "Jon W. Dudas". The signature is stylized, with a large, looped initial "J" and a distinct "D".

JON W. DUDAS
Director of the United States Patent and Trademark Office